REMARKS

Claims 24-28, 30-32, 35-40, 42, 45, 47, 49, 50, 55 and 56 are pending (claims 19-23, 29, 41, 43, 44, 46, 48 and 51-54 having been canceled and new claims 55 and 56 added by the present amendment). Claims 24, 26, 28, 30, 32 and 42 have been amended. The amendments and new claims are supported by the specification as filed and the original claims. Specifically, new claim 55 is supported by the specification at, e.g., page 7, lines 20-21; and page 19, lines 1-4. New claim 56 is supported by the specification at, e.g., page 7, lines 23-24; and page 20, line 15, to page 21, line 12. No new matter has been added.

Allowable Subject Matter

The Examiner states that claims 24 and 25 are allowed (Office Action at page 7). Applicants' representatives thank the Examiner for the courteous telephonic interviews of August 27, 2004, and October 4, 2004. On August 27, 2004, Applicants discussed the outstanding Office Action and the allowed subject matter (claims 24 and 25). Applicants proposed limiting the claims of the present application to antibodies and methods related to one particular peptide, SEQ ID NO:2. Applicants also described their intention to pursue claims directed to antibodies and methods related to the other peptides (SEQ ID NOs. 1, 3-7, 9 and 10) in separate continuation applications. The Examiner courteously agreed to review such amendments and Applicants submitted a proposed response by facsimile.

On October 4, 2004, the Examiner stated that the proposed response appeared acceptable, which response Applicants are now filing.

Rejections Under 35 U.S.C. § 112, first paragraph

The Examiner rejected claims 19-23, 26-31 and 35-48 as not being enabled. Claims 19-23, 29, 41, 43, 44, 46 and 48 have been canceled. Claim 24 has been amended to recite "[a]n antibody that specifically binds a peptide consisting of the amino acid sequence CGTQARQGDPSTGPI (SEQ ID NO:2)". The remaining claims now depend, directly or indirectly, from claim 24 and thus incorporate the limitations of claim 24, which the Examiner stated was allowable. As Applicants have enabled one of ordinary skill in the art to practice the

full scope of the invention claimed in claim 24, they have also enabled the subject matter claimed in the dependent claims 26-28, 30, 31, 35-40, 42, 45 and 47. Applicants respectfully request that the Examiner withdraw the rejection.

Rejections Under 35 U.S.C. § 112, second paragraph

The Examiner rejected claims 19-32 and 35-54 as being indefinite. Specifically, the Examiner states that "Hsp70B'" is vague and indefinite because Leung *et al.* (*Biochem. J.* 267:125-132, 1990) describes an Hsp70B' protein that differs in six amino acids from the sequence for Hsp70B' provided in the application as SEQ ID NO:11.

Claims 19-23, 29, 41, 43, 44, 46, 48 and 51-54 have been canceled, rendering the rejection of these claims moot. Claims 24 and 25 do not recite "Hsp70B'" and thus are not properly subject to the rejection. Claims 26, 28 and 32 have been amended and no longer recite "Hsp70B'". Thus, the rejection of claims 26, 28 and 32 (and of dependent claims 30, 31, 35, 36, 42, 45, 47, 49 and 50) has been overcome.

Claim 27 depends from claim 26 and limits the claim by requiring that the kit also include an Hsp70B' protein or an Hsp70B' peptide. Claim 27 is not limited to any particular Hsp70B' protein or peptide, and one of ordinary skill in the art would be able to determine whether or not a given protein or peptide was an Hsp70B' protein or peptide (Leung *et al.* notwithstanding). Thus, claim 27 and dependent claims 37, 38 and 40 are not indefinite.

The Examiner rejected claim 22, stating that SEQ ID NO:9 is confusing. Applicants have canceled claim 22, rendering this rejection moot.

Regarding claim 32, the Examiner states that the phrase "a specific interaction" is vague and indefinite. In the interest of advancing prosecution, Applicants have amended claim 32 to replace the phrase "a specific interaction" with "binding", as suggested by the Examiner. Thus, this ground for rejection should now be withdrawn.

The Examiner rejected claims 42 and 43, requesting that "KLH" be spelled out completely. Applicants have replaced "KLH" in claim 42 with "keyhole limpet hemocyanin" and have canceled claim 43.

In light of the amendments, Applicants respectfully request that the Examiner withdraw all of the rejections under 35 U.S.C. § 112, second paragraph.

Rejections Under 35 U.S.C. § 103(a)

The Examiner rejected claims 19-21, 32, 49 and 50 "as being unpatentable over Leung et al. over Campbell (Monoclonal Antibody Technology Campbell eds, 1986) in combination of Schild et al. (Curr Opinion in Immu. 1999 11:109 February issue) or Srivastava et al. (US 6451316)" (Office Action at page 6). According to the Examiner, Leung *et al.* describe a heat shock protein, Hsp70B', but do not teach the production of an antibody against Hsp70B'. The Examiner also states that Schild *et al.* and Srivastava teach the antigenic natures of Hsp70 family members. Finally, the Examiner states that "Campbell teaches that '*it is customary now for any group working on a macromolecule to both clone the genes coding for it and make monoclonal antibodies to it (sometimes without a clear objective for their application)*'" (Office Action at page 6). The Examiner concludes, at page 6 of the Office Action, that

> it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided Leung et al with basic technique for making antibody as taught by Campbell, since Hsp70 family protein has been shown antigenic and involving important physiological functions, particularly environmental-stress response, one skilled in the art would be motivated to use Campbell's teaching to make monoclonal antibodies against Hsp70B' with reasonable expectation of success once its sequence has been disclosed.

Applicants respectfully disagree. However, in the interest of advancing prosecution, Applicants have canceled claims 19-21 and have amended claim 32 to be directed to a method involving antibodies that specifically bind to a particular peptide, SEQ ID NO:2.

There is a well-established legal standard for obviousness. Among other things, the prior art reference(s) must teach or suggest all the claim limitations. MPEP at 2143.

None of the references cited by the Examiner teaches or suggests, alone or in combination, the particular peptide defined by SEQ ID NO:2 or antibodies that specifically bind SEQ ID NO:2, as required by the claims. Although Leung *et al.* disclose the sequence for Hsp70B', Leung *et al.* do not provide any guidance for selecting a particular peptide against which to generate antibodies. Likewise, Schild *et al.* and Srivastava only generally teach the use of heat shock proteins linked to a heterologous antigen to elicit an immune response. Neither of these references teaches or suggests

the antibodies of the present claims. Campbell states that it would be routine to make a monoclonal antibody against a macromolecule. However, without a teaching or suggestion to select the peptide defined by SEQ ID NO:2, Campbell, whether considered alone or in combination with the other cited references, cannot render the present claims obvious. Thus, Applicants respectfully request that the Examiner withdraw this rejection.

Enclosed is a Petition for Extension of Time along with the required fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: 4 November 2004

Rolando Medina, Ph.D., J.D.
Reg. No. 54,756

Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110-2804
Telephone: (617) 542-5070
Facsimile: (617) 542-8906